

ABSTRACT

The present invention is to provide a method wherein a cell-specific expression/replication vector that express and replicate a gene specifically in specific cells such as malignant tumors and the like and does not injure normal cells, particularly a vector that can suppress the expression/replication at a desired period after the expression/replication is constructed, for the use in therapies for such as malignant tumors and the like, and treatment is conducted by introducing the vector to a particular living cell such as malignant tumor and the like for expression. A cell-specific expression/replication vector that does not act to adult normal cells is constructed by: a transcriptional initiation regulatory region of human calponin gene that is expressed in smooth muscle cell specifically is obtained; said region is linked upstream of the replication-related gene of virus such as ICP4 and the like; a DNA that encodes proteins such as suppressive factor for tumor angiogenesis or apoptosis-related factors and the like is linked via IRES to said replication-related gene of the virus; and thymidine kinase gene in an intact state is integrated into a viral DNA. This vector thus constructed is infected and introduced to malignant tumor cells, and malignant tumor cells are selectively disrupted.